SANTA CRUZ BIOTECHNOLOGY, INC.

RGS9 (C-8): sc-377252



BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to various intracellular effectors. G proteins comprise α , β and γ subunits, and following activation the a subunit binds GTP and dissociates from the $\beta\gamma$ complex. A large group of proteins have been identified as GTPase-activating proteins (GAPs), including the RGS (regulator of G protein signaling) family, which serve to deactivate specific G_α isoforms by increasing the rate at which they convert GTP to GDP. A subfamily of RGS proteins expressed in the central nervous system contain, in addition to the highly conserved RGS domain, a characteristic GGL domain, or G protein γ subunit-like domain, which mediates binding to $G_{\beta\,5}$ subunits. This subfamily, which includes RGS6, RGS7, RGS9 and RGS11, associates with $G_{\beta\,5}$ to form active GAP complexes that are predominantly localized to the cytosol. RGS/ $\beta5$ complexes preferentially target $G_{\alpha\,0}$ subunit for hydrolysis and inhibit $G_{\beta\,1\,v2}$ -mediated activation of phospholipase C.

REFERENCES

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- 2. Snow, B.E., et al. 1998. A G protein γ subunit-like domain shared between RGS11 and other RGS proteins specifies binding to G_{\beta~5} subunits. Proc. Natl. Acad. Sci. USA 95: 13307-13312.
- Thomas, E.A., et al. 1998. RGS9: a regulator of G-protein signalling with specific expression in rat and mouse striatum. J. Neurosci. Res. 52: 118-124.
- Guan, K.L., et al. 1999. A G-protein signaling network mediated by an RGS protein. Genes Dev. 13: 1763-1767.
- 5. Hepler, J.R. 1999. Emerging roles for RGS proteins in cell signalling. Trends Pharmacol. Sci. 20: 376-382.
- Posner, B.A., et al. 1999. Regulators of G protein signaling 6 and 7. Purification of complexes with G_{β 5} and assessment of their effects on G protein-mediated signalin pathways. J. Biol. Chem. 274: 31087-31093.

CHROMOSOMAL LOCATION

Genetic locus: RGS9 (human) mapping to 17q24.1; Rgs9 (mouse) mapping to 11 E1.

SOURCE

RGS9 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 449-487 near the C-terminus of RGS9 of mouse origin.

PRODUCT

Each vial contains 200 μ g lgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377252 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

RGS9 (C-8) is recommended for detection of RGS9 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RGS9 (C-8) is also recommended for detection of RGS9 in additional species, including canine.

Suitable for use as control antibody for RGS9 siRNA (h): sc-36412, RGS9 siRNA (m): sc-36413, RGS9 shRNA Plasmid (h): sc-36412-SH, RGS9 shRNA Plasmid (m): sc-36413-SH, RGS9 shRNA (h) Lentiviral Particles: sc-36412-V and RGS9 shRNA (m) Lentiviral Particles: sc-36413-V.

Molecular Weight of RGS9: 55 kDa.

Positive Controls: rat eye extract: sc-364805, A-673 cell lysate: sc-2414 or SJRH30 cell lysate: sc-2287.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG K BP-HRP: sc-516102 or m-IgG K BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG K BP-FITC: sc-516140 or m-IgG K BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA





RGS9 (C-8): sc-377252. Western blot analysis of RGS9 expression in rat eye tissue extract (A) and BC_3H1 (B), A-673 (C), SJRH30 (D) and L6 (E) whole cell lysates.

RGS9 (C-8): sc-377252. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

 Wang, Y., et al. 2024. Transcriptomic analysis of rat brain response to alternating current electrical stimulation: unveiling insights via single-nucleus RNA sequencing. MedComm 5: e514.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.